

REMEMBERING THE ROYAL VISIT OF 1939

SPRING/1999

ROTUNDA

the magazine of the Royal Ontario Museum

**MYSTERY
IN A
MEDIAEVAL
MOSQUE:
AN ANCIENT
TRUST
REVEALED**

**WHERE DID
HUMANS
ORIGINATE?
THE EVIDENCE
OUT OF CHINA**

**PLUS
PLIGHT OF THE
SHOREBIRDS**

**ATHAPASKAN
VOICES IN
THE WIND**

VOL. 31/No. 3

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the magazine of the Royal Ontario Museum

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Scrubbing away surface whitewash revealed a mosque's timeless beauty—and the tale of a forgotten religious school. To learn more, turn to page 18.

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BY ED KEALL

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EDITOR'S NOTE

IN THE LAST ISSUE OF *ROTUNDA* EXECUTIVE EDITOR SANDRA SHAUL informed you of her decision to leave the ROM after 13 and a half years, to take time off for, as she put it, adventures of her own. Sandra is a dear friend. We will miss her terribly and wish her all the best in her adventures. We are proud that *Rotunda* magazine has achieved so much and has set such a high standard.

Challenging the theory that humans evolved in Africa, Chen Shen, a palaeoarchaeologist in the ROM's Department of Near Eastern and Asian Civilizations, explores "The Cave of the Dragon Tooth" to determine where humans evolved. Conducting the first ROM research in China since early this century, Chen and his colleagues are looking for evidence of early hominids.

Catherine Ayley writes about ROM fieldwork conducted by Allan Baker's team, in New Jersey and Delaware, where shorebirds are competing with fishermen for horseshoe crabs. The crabs provide bait for conch and eel fishing and an emergency food supply for the shorebirds during their long flights from South America. As the crab populations dwindle, we are witnessing the "Fall of the Shorebirds."

ROM research on a mosque in Zabid, Yemen, reveals "The Words on the Wall," a dedication to a mediaeval religious school. Archaeologist Ed Keall describes how he and his crew, working with a local team, have restored the school, which is once again actively serving the needs of the mosque's congregation.

Britain's King George VI and "The Queen Mum" were truly "The King and Queen of Hearts" when their 1939 tour of Canada charmed the nation. Through memorabilia in the ROM's collections and elsewhere, Jacques Lavoie, of the ROM's Education Programs Department, recreates a vanished era.

Each of our feature articles reflects the enthusiasm and dedication of our curatorial staff for their research projects. While the Museum is indeed about civilizations—ancient and more recent—and about the natural world, it is, more than anything, about people. It is our sincerest wish to communicate the wonders of our collections whether you explore in person, or through the pages of this magazine.

Our artifacts and specimens gain new meaning when we fully understand their significance. The ROM's interdisciplinary and international interests take our curators to all parts of the world, where their work attracts attention and praise. In Vietnam, Robert Murphy, a curator in the Centre for Biodiversity and Conversation Biology, and his

team, regularly discover new species of frogs and lizards (*Rotunda*, Fall/Winter 1998). In Africa, Krzysztof Grzyski, curator in the Near Eastern and Asian Civilizations, Egypt and Nubia section, recently discovered the remnants of a previously unknown society. *Rotunda* was there, to help its readers get behind the scenes, and will report on Dr. Grzyski's findings in a future issue.

Beginning with the June 1999 issue, Lee-Anne Jack, a ROM writer and editor, will report in this column as editor. Her perspectives will be complemented by those of Lindsay Sharp, the ROM's president and CEO. Lee-Anne has worked closely with Sandra Shaul over the past few years and will ensure that *Rotunda*'s high standard of journalism will continue. Glen Ellis, head of the Museum's book publishing program, will lend his publishing expertise to the new *Rotunda* as managing editor and book review editor. My role will be to serve as executive editor, to help develop new ideas and concepts, and to broaden and enrich your experience of Canada's international Museum.

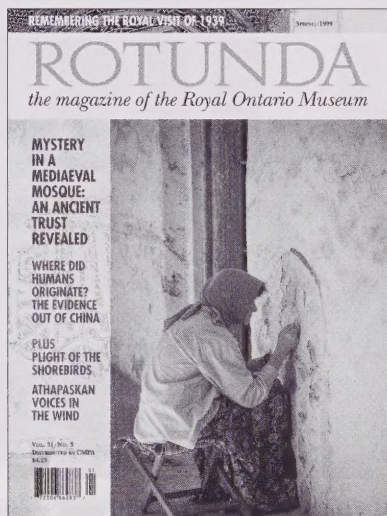
With the June issue, we will be adding more of our own signature to the magazine and incorporating our newly designed ROM newsletter. Giving you the big picture, *Rotunda* fits the Royal Ontario Museum and its collections into a world perspective. Our newsletter will inform you about what you can see and do when you visit the Museum.

Some of our regular departments will be redesigned to be more compatible with current world concerns. We will be bringing biodiversity, the measure of the Earth's health, into your backyard to reflect how a large number of species is essential to a healthy planet. We will be looking at the sky and stars, reaching back into our archives, and keeping you abreast of the newest and best Museum-related books. We will continue to showcase treasures in "Growing Collections," comment on your heirlooms in "ROM Answers" and update you on our latest conservation practices with "Conservations Notes." And, of course we will always offer head-turners with the last word, "Look Again."

This is an exciting time for us at *Rotunda* and we are grateful for the continuing resources of the Louise Hawley Stone Charitable Trust, which enables us to bring you the best of the Museum in the best possible way.



SANDRA PILLAR



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This rare 19th-century hand-carved bow and arrows and accompanying glass-beaded quiver sewn with sinew—thread made from fibrous tissue—was the equipment used for generations by Athapaskan hunters.

Athapaskan Bow, Quiver, and Arrows Guard the Memory of Generations

FOR COUNTLESS GENERATIONS, THE Tanaina people of the Cook Inlet area in the Gulf of Alaska caught summer salmon in weirs and basket traps and captured Pacific harbour seal with arrows and harpoons. Each fall, hunters armed with bows and quivers of arrows journeyed across their territory to hunt caribou and, later in the year, moose, bear, and mountain goat.

A hunter's ancestors—his father, his grandfather, and his grandfather's grandfather—for countless generations, used the same style of wood bow and carried arrows in the same type of skin quiver. Looking down the same forest path as his

forebears, the hunter fashioned with his knife a bow that would send his arrows true through darkened brush to the heart of an animal he could barely see, but knew he was receiving as a gift. From its skin, his wife fashioned a quiver to cradle his precious arrows. Carefully sewn with its sinew and decorated finely to please the animal, the quiver, too, was made according to the ways of her mother, her grandmother, and her grandmother's grandmother.

Tradition is strong, but history shows us that it can be weakened in the face of new opportunities. Flintlock guns, which could save a hunter time and energy, appeared from

around a bend in the river. At first, the hunter had only heard tales of the strange men with their big canoes that captured the wind. But then, on his side of the river bend, they built a trading post. From there, the hunter was able to get his own gun, ammunition, and glass beads in exchange for a few beaver pelts and the skin of a wolverine. Intrigued by the fort with its foreign attractions, he also received traps to capture the beaver, and, with its pelt, he bought more beads and the ammunition he needed to feed his gun.

For the first time, he didn't go looking for the caribou in fall. He

PHOTOGRAPH BY BRIAN BOYLE, ROM

had his traps to visit, and with his gun he could harvest caribou much more easily and more often. For the first time, he didn't search for the arrow wood—straight in grain—and the spider had time to spin its web between the bow and the lodge pole on which it hung.

As the spider's web grew stronger over the years, the flicker of the hearth fire in winter no longer reached the reflective surfaces of the bow, the quiver, and the arrows. The hunter didn't teach his son where to find the arrow wood, and his wife and daughters were too busy preparing fur for trade to sew the quiver that was no longer needed.

By the time their children had children, the bow, the quiver, and the arrows had become less visible: they had become part of a story the children sometimes heard during winter time, but not part of their dreams. By the time *their* children had children, and the people of the trading post were building muse-

ums, the bow, the quiver, and the arrows had long vanished, the fires of many ancestors no more than wind-blown dust since the caribou last felt the dance of the arrow.

Lost to time and the new ways that had come from around the bend in the river, the use of bow and arrow by the Athapaskan Indians of the Western Subarctic had ceased by the mid to late 19th century. As the bow was turning to dust, the Royal Ontario Museum was still a half century in the future. Foreigners, such as missionaries and fur traders, who had the foresight to collect such things, were very few and most took their collections back home to the Old World. This style of bow, with its central guard that protects the hand from the returning bow string, and the hooded quiver, with its glass-bead embroidery, are therefore extremely rare.

Through the ROM Reproductions Fund of the ROM Foundation, the Department of Anthropology was able to acquire the bow, quiver,

and set of arrows. Thanks to this fund, the ROM is able to collect objects of such significance, which bespeak the ways of First Peoples. Much more than the machinery used to capture caribou, the bow, quiver, and arrows symbolize the dreams and the relationship the Athapaskan people had, and still have, with their world. They represent the values of those countless generations who saw beyond the fire, who stared into the eyes of wolf and raven and called them family. These artifacts have a story to tell about the human condition—a story about life, death, dreams, aspirations, knowledge, skill, tradition, relationships, stress, and even assimilation and change. Our challenge is to hear the narratives of these artifacts—and to listen for their stories that have yet to be told.

KENNETH R. LISTER

Kenneth R. Lister is assistant curator in the Department of Anthropology, Royal Ontario Museum

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In the Summer 1999
issue of *Rotunda*...

The Bizarre Fossils of BC's Burgess Shale

BY
DR. DESMOND COLLINS



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The Jain goddess Ambika was rewarded for her good deeds with sweet, ripe mangoes.
Ambika, Yakshi Attendant to Neminatha, the 22nd Tirthankara, sandstone, 8th century, Madhya Pradesh, India.
Gift of Carol and James George

Mango Madness

A young housewife named Ambika gave food to a Jain monk who begged at her door. The feast had been intended for her husband, a Brahmin. When he became angry about his missed meal, Ambika left, taking her two sons, to live in the woods. As they despaired of survival, a pool appeared before them to slake their thirst and a withered mango tree bloomed abundantly to feed them, in honour of the merit she had earned by her good deed. She became a yakshi, or folk goddess, in the Jain religion.

— Traditional Jain tale, Gujarat, India

THE STUFF OF LEGEND AND LORE, THE mango holds almost mythical appeal, from the sensuous to the divine. A relative newcomer to these

cold and windy shores, it is a pleasure so ancient that unlike coriander, the potato, or even the timeless lentil, its origin remains mysterious. Foodie anthropologists venture a guess covering the terrain from Southeast Asia to Eastern India. Yet the mango was never built to travel: its fruit spoils almost instantly and its seeds lose their potency not long after.

Territorially, I cast my vote for India, which has given the world so many incendiary flavours. The mango turns up as a popular fruit in South Indian Sanskrit writings of 40 centuries ago. Its nomenclature, too, points to India: the Tamil name is “man-kay,” which Portuguese traders truncated to “manga” and the En-

glish, to mango. On a monument in Lahore, the Buddha is depicted sitting in a grove of mangoes. Akbar the Great, that awesomely accomplished Mogul emperor of India, prided himself on an orchard of 10,000 mango trees.

It is one of the rare delights that escaped the Greeks and omnivorous Romans, although Alexander the Great may have encountered it on his invasion of India in 326 BC. One chronicle mentions a fruit resembling the mango, but which “gives rise to colic and dysentery, wherefore Alexander published a general order against it.”

The intrepid Marco Polo missed it completely on his great journeys

PHOTOGRAPH BY BRIAN BOYLE, ROM

in Asia. The earliest foreigners to make note of it were the Chinese, in the 7th century. It took another 700 years for the Europeans to catch up. By the 18th century, Portuguese colonists were cultivating it in Brazil, the Spaniards in Mexico, and the British—who had found it simply divine in India—in the West Indies and Australia. One traveller observed that the “Goa mango is reckoned . . . the wholesomest and best-tasted of any fruit in the world.”

The mango spread through what is today Thailand, Malaysia, and Indonesia, where it still falls behind the stinkaroo durian in the popularity polls. We know it was flourishing in Tahiti in the last century because of artist Paul Gauguin, who was fond of painting it, even though in his canvas *Mango* the plump, round breasts of Tahitian beauties figure far more prominently than the pithy fruit platter.

What has often confounded Canadians is the fruit's inconsistency in flavour and texture. This is be-

cause there are about 60 species of mango, many of them stringy, acrid, and tasting of turpentine. Some of the mangoes we see in Canada, produced for an unknowing mass market, are fibrous and unpleasant. Some people actually *loathe* mangoes and are missing the boat: lay your hands on a perfect mango and you will discover it to be the absolute prince of tropical fruits, its texture smooth as silk, its succulence such that you'll take to carrying around a finger bowl, its flavour rich and round and biting.

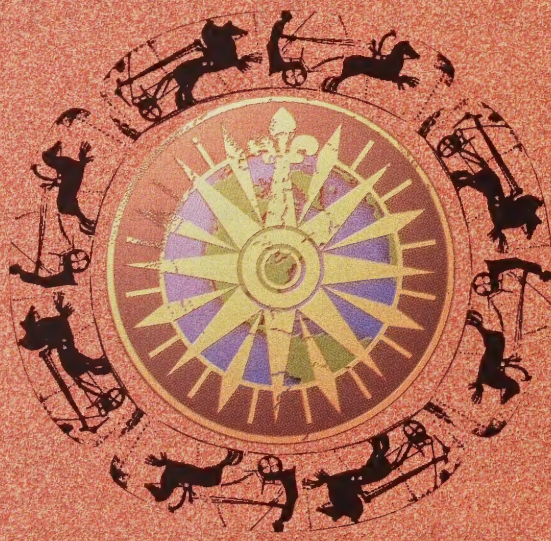
Nowadays, mangoes are grown in Florida and the West Indies, in Mexico and Hawaii, in Brazil and Burkina Faso, in Egypt and Israel, and of course in India and Southeast Asia, where varieties of numerous shapes and colours dance across shelves and tabletops. There has been considerable experimentation in grafting, resulting in strains such as Rupee, Alfonso, Haden, and Parrot Beak. Most of our mangoes come from Mexico and Brazil, but it remains worthwhile to fly them all the way from India at

the sweltering peak of the season.

“During the mango season,” writes Madhur Jaffrey, “large picnics are arranged. Mangoes, it is felt, are best eaten in mango orchards, soon after they have been plucked from the tree, allowing just a brief period for cooling them down in buckets of rice. Lucknow produces many varieties of mangoes, including my childhood favourite, the Dussheri. Elongated, with a slim, flat stone, Dussheri has the sweetest orange flesh imaginable. Eaten straight off a tree, it is pure nectar.”


India remains the world's largest grower of mangoes, producing about 75 per cent of the global supply. They can be as diminutive as a plum or as large as a football. They can be shaped like a peach, a pear, a heart, or even a kidney. They can be red, yellow, or green. The mangoes most often seen in Canada are roughly the size of a pear, with skin orange to red to purple in hue.


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of grocery stores. Welcome to Mango Madness. The sidewalks are packed and stacked with crates of red, ripe fruit, infusing Gerrard Street with their fabulous aroma, afflicting pedestrians with mild whiplash, and prompting vehicles—ours, for instance—to grind to a screeching halt.

“That’s when we bring in the Alfonsos from India,” owner Azim Popat tells me. “They are absolutely the best in the world, sweet and rich, yearning to melt in your mouth. By May, we are selling 200 cases a week at \$16 to \$18 per dozen. Then, towards the end of May, come the Hadens from Mexico, a little stringy, but still delicious, and cheaper—as low as \$6 a case—in June, when we’re into mango monsoon. Then come the Julies from Jamaica . . .”

Canadians think of mangoes as dessert: fresh, chilled mangoes scooped out with a spoon, mango sauce, mango jam, mango ice cream, mango sherbet, mango milkshakes. The French sauce roast duck in ripe mangoes. Trendy chefs toy with mango salsas.

But it is the Asians, treating the mango as a vegetable, who show real ingenuity, a fact abundantly clear in Periplus World Cookbooks’ series of superlative softbound volumes marrying culture and cuisine: *The Cooking of India, Indonesia, Malaysia, Singapore, Bali, and Thailand* (Raincoast Books, \$17.99, widely available).

Indian chefs use the green, unripe mango for spicy mango pickles, for mango chutney, and for *am-chur*—powdered mango incorporated into North Indian vegetarian dishes. The Thais have developed strains of mango so remarkable that the export of hybrid cuttings is strictly prohibited. They enjoy it as a dessert, yes, but more importantly, they meld its flesh with sugar, salt, garlic, and fiery chilies to produce green mango salad, one of the titans of the Thai kitchen.

The following recipe comes from Kiem Thung, owner of the Toronto restaurant Golden Thai. Hot and sweet, sassy and mouth-filling, it can be eaten as a starter or as a side dish. Me, I eat it for breakfast. Noth-

ing like a little hot-and-sweet to kick-start a grey and chilly day.

GREEN MANGO SALAD

Ingredients

- 4 to 6 (unripe) mangoes
- 60 ml (¼ cup) finely julienned red pepper
- 60 ml (¼ cup) finely julienned carrot
- 60 ml (¼ cup) finely julienned red onion
- 125 ml (½ cup) finely chopped fresh coriander (cilantro)
- 125 ml (½ cup) finely chopped fresh mint
- 45 ml (3 tbsp) fish sauce (substitute light soya sauce for vegetarian version)
- 15 to 30 ml (1 to 2 tbsp) freshly squeezed lime juice
- 15 to 30 ml (1 to 2 tbsp) sugar
- 1 small fresh green chili, seeds removed, finely chopped; 5 ml (1 tsp) dried chili flakes (or to taste) can be substituted
- 125 ml (½ cup) roasted chopped peanuts

Preparation

Peel mangoes. Slice off the sides of each mango with a sharp knife. To do this, place the mango on its side, steadying it with your hand flat on top and carefully slicing off the top third in a horizontal motion. The large seed is in the remaining (middle) section. Trim as much flesh from the seed as possible. Cut fruit into a fine julienne. You should have 750–1000 ml (3 to 4 cups). Toss mango with red pepper, carrot, onion, coriander, and mint.

Combine remaining ingredients. Stir well to dissolve sugar. Toss with mango mixture. Note that the amount of sugar and lime juice will depend on the type and ripeness of the mango as well as personal taste. The overall effect should be slightly sweet, tart, and hot.

To serve, landscape attractively on a plate and garnish with roasted peanuts. Serves 6.

JEREMY FERGUSON

Jeremy Ferguson writes about food and travel

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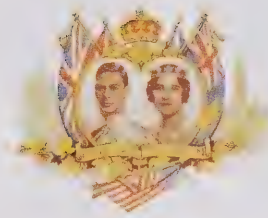


Their Majesties cruise through the City of Quebec





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THE KING AND QUEEN OF HEARTS

A royal visit remembered

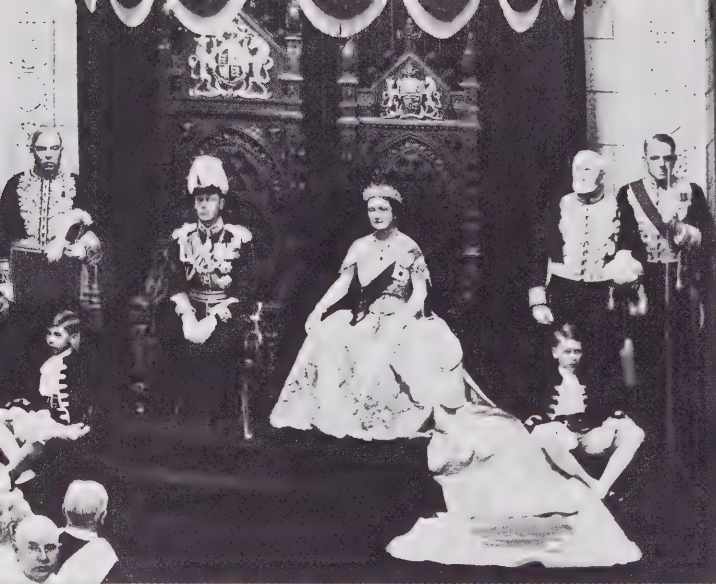
BY JACQUES LAVOIE



IN THE DISTANT AND very different Canada of 1939, what was perceived as a monumental occasion in the nation's history was about to unfold: the royal visit of England's King George VI and Queen Elizabeth, the first reigning sovereigns ever to set foot on North American soil. As the date of their arrival in Quebec City approached—May 17, 1939—the nation seemed to hold its breath in anticipation.

Sixty years later, it is difficult to imagine the near hysteria prompted by the occasion. While in recent years, visits by Queen Elizabeth II, Prince Phillip, and

*Jacques Lavoie is an educator in the Education Programs Department of the Royal Ontario Museum.
With files from Yuri Shimpö.*



NATIONAL ARCHIVES OF CANADA



Previous page: Extensive memorabilia captures the excitement of the 1939 royal visit to Canada. Above: In Ottawa, King George VI, with Queen Elizabeth by his side, ratifies an agreement under the Great Seal of Canada for the first time in history. Right: The royal couple inspected the Frood Mine in Sudbury, Ontario. Below right: The King and Queen covered some 9600 kilometres (6000 miles), stopping in major centres and smaller towns, including Jasper, Alberta. Below: Crowds line the streets in every city for a glimpse of the royals during their 1939 visit.





NATIONAL ARCHIVES OF CANADA



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their children have created only a few ripples in the media, in 1939 coverage was intense. Citizens were exhorted to demonstrate their loyalty to the British Crown, to tidy up the appearance of their cities, and to purchase memorabilia. Photos of the royals were splashed across the front pages of papers, displacing news of impending war, and in Toronto Mayor Ralph C. Day declared the day of their arrival there a civic holiday. Following longstanding tradition, commemorative china had also been manufactured to mark the event, some fine examples of which are housed in the ROM's European collections (see *The Art of Royal Remembrance*, page 14).

While the opportunity to see their King and Queen was a first for Canadians, who lined the streets in every city for a glimpse and a wave at the passing royals, the prospect of visitors from afar was part of the novelty. Unlike celebrities of today, who can jet anywhere in the world within hours, George VI and Elizabeth arrived aboard the *Empress of Australia* after 10 days at sea, two days longer than expected due to fog and icebergs off the coast of Newfoundland. And, unlike Charles and Diana's sons, who became a familiar sight on royal tours two generations later, princesses Elizabeth—now Queen of England—and Margaret Rose stayed home. George VI explained in a letter that the 13-year-old Elizabeth and her younger sister “were much too young for such a strenuous tour.”

In Canada, politics had taken an interesting turn. The idea for a royal visit seems to have originated with Lord Tweedsmuir, Canada's Governor General at the time, and the invitation was extended by Prime Minister MacKenzie King at George VI's coronation in 1937. Both prime minister and Governor General were eager to plan a tour to promote Canada's freshly minted constitutional position. The *Statute of Westminster*, signed in 1931, had given Canada a new sovereign status in the British Commonwealth. George VI had a new role, no longer acting for Canada as monarch of the “mother country” but as “King of Canada.” Events were carefully planned to emphasize this new relationship.

For the first time, the King ratified two agreements under the Great Seal of Canada, rather than that of Britain. Although it could be seen as a symbolic gesture, this new procedure was one of the first steps toward full political independence. At an emotional unveiling of Canada's National War Memorial, the King remained at the salute as the band played *O Canada*, a gesture that may have elevated the music to the status of national song, although it would be many years before it would become the official national anthem.

Anxiety about Canada's “two solitudes” couldn't be dismissed, even in 1939, and some English Canadians were concerned that the royal couple would be coolly received in the French-speaking province of Quebec. To the contrary, more than a million enthusiastic Quebecers attended the royal parade in Montreal, the largest turnout in any Canadian city. French and English

THE ART OF ROYAL REMEMBRANCE

SINCE ANCIENT TIMES, DRINKING VESSELS HAVE PORTRAYED THE exploits of kings and queens. The manufacture of commemorative china to mark important royal occasions evolved from this early practice and the tradition continues today. Made possible by cheap, mass-produced ceramics, faster communications, better transportation systems, and an increasing population, significant production of commemorative wares began in the 1780s.

As a moment of historical consequence, the 1939 royal visit to Canada was commemorated in china. Normally, only regal weddings, coronations, and deaths would be remembered in this way. Because of the Great Depression, even in 1939 people were wary about spending. As a result, royal souvenirs were not especially big sellers. Usually, the popularity of such items ebbs and flows with the royal news of the day. Souvenirs of Prince Charles and Lady Diana's wedding, for example, made a comeback after their separation was announced, and commemorative wares bearing Diana's likeness have begun to appear everywhere since her death. Even china commemorating King Edward VIII's coronation—an event that never occurred—made its way onto the market after his abdication. At various times in history, commemorative pieces that derided royalty were also produced. George IV and Queen Caroline were particularly unpopular for their unregal behaviour.

In 1939, the most popular commemorative items were mugs and cups and saucers, usually made of only poor to fair quality china. Images from the King's coronation, just two years previous, were often re-used and sometimes slightly modified. Some of the regal portraits were of even earlier vintage; the photograph of the Queen on a 1939 Shelley double-handled "loving cup" in the ROM's collections, for example, had been taken 13 years before, when she was Duchess of York.

The poorer grade of souvenir china was sometimes given away gratis at movie theatres. Weston's Bakery offered cake on a souvenir plate. Finer pieces were more rare.

Over the years, commemorative wares have remained remarkably similar to those produced in the late 1700s. Most pieces still boast a front or profile view of the king or queen, framed by classical medallions and surrounded by various symbolic decorations—royal arms, roses, crowns, or flags. New elements have appeared over time. By 1939, portraits were usually based on photographs rather than engravings. Jugs, still popular in Queen Victoria's day, were by now scarce, while the availability of items such as ashtrays reflected changing habits and tastes.



Top: A fine Royal Brierley crystal vase, a gift to the ROM from the late Sir Edmund Beatty, head of CP railways and McGill University chancellor, was one of only 25 made for the 1939 royal visit. Bottom: The photo used on this 1939 cup and saucer was by an authorized royal photographer; however, it had been taken 13 years earlier, when the Queen was still Duchess of York.

Top right: Princess Elizabeth, now Queen of England, was 13 years old in 1939 although she and her sister Margaret Rose are pictured at a much younger age on these mugs. Middle right: The fine finish, delicate colours, and pure, dull gold banding on this Shelley "loving cup" indicate a fine quality piece. Bottom right: Few commemorative pieces from 1939 show more than the head and shoulders of the King or Queen, whereas earlier examples sometimes depicted the monarch in action scenes, such as battle victories.



Canada were equally swept up in the event and seemed to put aside their differences, at least temporarily, in a new mood of unity.

The royal tour covered a distance of about 9600 kilometres (6000 miles). In Toronto, the itinerary was similar to that in other cities on the tour: a procession through the streets; a visit to the provincial legislature, where the royal couple met the Dionne quintuplets; a meeting with the Toronto Scottish Regiment at Hart House; a limousine drive through Woodbine Race Track, where 25,000 children awaited the royal party; and a visit with war veterans at Christie Street Hospital.

The extensive newspaper coverage of the event, and even the advertisements, convey a sense of the excitement of the time. Ads for decorations, souvenirs, and commemorative china began to appear in the Toronto papers three weeks in advance of the royals' arrival. Eaton's announced its display of the *Royal Portrait* at the Fine Art Gallery in their College Street store, and at Casa Loma visitors could see *Royalty in Wax*, figures of the King and Queen in their coronation robes.

The city was busy preening. Flags, shields, banners, crowns, ensigns, and bunting began to appear; all three levels of government added to the frenzy by decking the parliament buildings, City Hall, and Union Station—where the royal train was to arrive—in empire colours. The excitement surrounding the royals found expression in a wide variety of merchandise, from shoes to cars (see *The Goods on Patriotism*, page 16). On May 10, one article claimed that 1,500,000 U.S. tourists were expected to cross the border to see the royal couple. The same day, the *Globe and Mail* published a road map of the regal procession, whereupon a wave of ads poured into the classified section, offering balcony and window spaces for rent along the route. Most seats were sold for \$4 to \$5, a not inconsiderable sum of money in post-depression Toronto. By mid-May, news of increasing tensions in Europe disappeared from the headlines as the visit took pride of place. Spirits ran high, and words such as "jubilation," "devotion," and "thrilling" were scattered generously through reports.

South of the border, however, the mood was more sombre, and doubts surfaced about the tour's appropriateness. U.S. President Franklin Delano Roosevelt had also extended an invitation at George VI's coronation, and the royals added three days in America to their month-long tour of Canada. Congress had been debating rearmament at the time, and the visit prompted suspicions of foreign interference.

There had already been talk of war. In Europe, tensions had been building since Adolf Hitler came to power in Germany in 1933. Austria had now been assimilated into the Third Reich. And, in spite of his expressed commitment to peace with the signing of the Munich Settlement, by 1938 Hitler was pushing his expansion plans towards Czechoslovakia.

As the royal couple travelled through Canada the

THE GOODS ON PATRIOTISM



Souvenirs of this happy occasion that will be treasured through the years not only for their sentimental appeal but for their intrinsic charm.



1—Small teaspoon EPNS with gilt bowl and enamel top. **50c**
2—After dinner coffee spoon. English hall mark silver. **\$1.25**



3—Replica of the Queen's crown in untarnishable silver colored metal set with rhinestones. Finely made. **\$3.00**



4—Handsome pin in silver colored metal set with rhinestones and marquise stone to represent emeralds, sapphires or rubies. **\$2.00**



5—Sterling after dinner coffee spoon with head of King and Queen. **\$1.50**
6—English hall marked tea spoon. **\$2.00**
With gilt bowl **\$2.25**



7—E.P.C. nut or candy dish. Nicely pierced. **50c**



8—Small or larger crown in silver or gold colored metal with colored stones. **\$1.00**

Phone and Mail Orders Carefully Filled.



KENTS
RECORDS LTD. LIMITED

WITH THE LONG YEARS OF DEPRESSION STILL FRESH IN PEOPLE'S minds, consumer demand for goods in 1939 remained low despite an improved economy. Merchants made every effort to link products creatively with the royal visit. Eaton's, for example, promoted cameras, paint, and clothing. An ad in the *Globe and Mail* on May 9 read: "It is the desire of the authorities as well as the majority of citizens that Toronto should look its best during the coming visit of their Majesties, the King and Queen. Paint is certainly one of the greatest aids in this respect and EATON'S is a good place to buy your paint because of the immense assortments."

In clothing, choice of material, colours, and cuts reflected the latest styles from Britain. Queen Elizabeth's love of Regina blue created a popular demand for this colour in various products. An ad appearing in the *Telegram* noted that "Royal choice makes blue fashionable." In another, The Ford Motor Company of Canada reported an increase in sales of blue cars, with many buyers specifying blue finishes.

In the *Toronto Daily Star*, an ad for women's shoes and bags read: "Patriotism can be demonstrated in many ways. During the coming visit of Canada's King and Queen, all the multifarious methods of honouring our monarchs will be in evidence. Owens and Elmes has devised a new and extremely attractive way of expressing loyal sentiment by wearing empire colours in footwear . . . and to further assist you has created a charming new version of the Poker Chip Tie, with red, white and blue heels."

Simpson's was the first to advertise souvenirs, and the focus was on table linens, cloth, and towels with royal themes, as well as books, mounted photographs, neckties, and sterling silver.

More exclusive luxury products were also promoted by some companies, such as cameras for taking snaps of the royal visitors and RCA Victor radios on which to listen to the "Greatest Radio Event in the History of Canada," the CBC broadcasts of speeches made during the royal visit.

Above: Although some firms creatively linked new products to the visit of King George VI and Queen Elizabeth, others advertised more traditional commemorative wares. Top right: English Canada's fears that the royal couple will be coolly received in Quebec are dispelled with a new mood of unity captured by this cartoon in the *Toronto Daily Star*. Bottom right: Innovative ways to demonstrate patriotism were offered in this ad for empire-coloured ladies' shoes and handbags.



A GRACIOUS AND COURTEOUS ROYAL GESTURE

PATRIOTISM

can be demonstrated in many ways

White Suede
Red —>
White —>
Blue —>



White Suede
Red —>
White —>
Blue —>



During the coming visit of Canada's King and Queen, all the multifarious methods of honoring our monarchs will be in evidence. Owens & Elmes has devised a new and extremely attractive way of expressing loyal sentiment by wearing royal colors in footwear . . . and to further assist you has created a charming new version of their Poker Chip Tie, with red, white and blue heels . . . and a clever handbag, trimmed with red, white and blue, to match. You should see them—and come early.

SHOES, \$8.75

BAG, \$3.95

OWENS & ELMES, Limited

151 YONGE STREET, at Richmond

Our hosiery, in all the newest shades, has sheer loveliness and flawless beauty of texture . . . 85c.

next year, the press reported a mounting number of incidents between Germany and Poland. With the spectre of war in the offing, it is impossible to view the royal tour as devoid of political consequence. Some historians suspect an element of blatant propaganda in the visit, that behind the King's stated goals was a call for Canada to stand with Britain in case of war—which was declared only six months later. Historian Donald Creighton saw no hidden agenda in the royals' presence, declaring in his book *Dominion of the North* that the ancient tie with Britain would naturally be strengthened with menace in Europe, and that the tour merely reflected the historic bond. More cynical observers felt that the "Royal Recruiting Tour" was expressly designed to woo Canada to England's side: "The purpose was transparently to revive pro-British sentiment in Canada," remarked Gwynne Dyer and Tina Viljoen in *The Defence of Canada*.

Whatever its intent, the tour was a success. Newspaper editorials urged Canada to abandon any idea of isolation in the event of war. "Canada Stands with Britain" proclaimed a headline in the *Financial Post*. None of the Toronto papers took a neutral position on foreign policy. But as Canada followed Britain to war later that same year, the country's fragile "deeper conception of unity," hoped for by the King, was threatened as a conscription crisis set French and English Canada once again at odds. But the ties between Britain and English Canada had certainly been strengthened.

The triumph of the tour seems to have been felt on both sides of the Atlantic. George VI's official biographer, J. W. Wheeler-Bennett, noted that "the magnitude of this success was wholly unexpected. Within a week of their arrival the King and the Queen had completely won the hearts of the whole North American continent." An editorial in the *Toronto Daily Star* suggested likewise: "Toronto's royal visitors have gone, and it may be said of their appearance here that nothing could have been more successful."

In today's more cynical age, it seems most unlikely that a royal tour would meet with similar results in the face of war. While it was not an occasion on which Canada and England signed treaties or formed alliances, the visit of King George VI and Queen Elizabeth occurred at a crucial moment in the history of both countries. A bond was established between the royal couple and Canada's people. This success was not least of all due to the personalities of the King and Queen themselves. Their charm captivated both the public and the media, much as that of their granddaughter-in-law, Princess Diana, would in future generations. ♡

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THE WORDS ON THE WALL

The background of the entire page is a photograph of an old, textured wall. On the left, there's a vertical strip of reddish-brown material, possibly a book cover or a piece of fabric, which serves as a backdrop for the text. The wall itself is light-colored with some darker patches and a faint floral pattern. On the right, there's a small, arched niche or window opening with a decorative frame.

*A mediaeval
inscription
revealed from
under centuries
of whitewash
brings new life
to a forgotten
school*

STORY AND
PHOTOGRAPHS
BY ED KEALL

AT AL-ISKANDARIYYA



IN 1982, YEMEN'S AL-ISKANDARIYYA Mosque in the citadel of Zabid still retained intact the modest but appealing profile of its dome and the striking form of its tall minaret—testimony to the quality of its construction 500 years earlier. There was little electricity in the town of 7000 inhabitants when the ROM first contemplated an archaeological program there. But by day and by moonlight, the whitewashed form of mosque and minaret assumed a visual

prominence from the highway that, one might have argued, gave it a higher profile than the historical merit the structure demanded. From beneath the mosque's whitewashed skin, a ROM research team has uncovered something of the building's

former decorative charm, revealed truths that elevate it in academic importance, and inspired students to re-establish a 500-year-old school that had lain dormant in the mosque for decades.

Attitudes towards religion have changed over the centuries in Yemen, and these changes are reflected in both the architecture of mosques and the religious rituals practised within. Although surface whitewash was not part of the original decorative scheme of the al-Iskandariyya, for the past 200 years it has been regularly applied to commemorate the beginning of Ramadan, Islam's month of fasting. In a symbolic act of purification, a man stands, bucket and cup in hand, throwing a stream of whitewash against the wall, or tipping it carefully over the balcony from the top of the minaret. This temporary face-lift takes less than a day to perform. The following year, another layer is added on top of the old, along with whatever desert dust has adhered in the meantime. Gradually, layer upon layer accumulates.

By 1982, most of the mosque's original decorative details had been obscured. Only in the crown of the dome, in areas beyond reach of the whitewashers, was the original painted design still discernible. But, having been exposed for centuries, those areas were badly stained and

scarred by water seepage, and damaged by bats and the nests of mud-dauber wasps. Former ROM technician Nancy Willson, who was part of the original team, recalls

the mosque as largely derelict, infested by bats and the occasional snake. Every afternoon, for days, she sat on the sandy floor, looking up at the dome through binoculars, painstakingly recording the decorations in a notebook. Sometimes she



Previous page: As the surface whitewash is removed, the original decorative scheme inside the al-Iskandariyya mosque is revealed.

Above: Although not part of the mosque's original decoration, whitewash has been applied to the al-Iskandariyya for the past 200 years to commemorate the beginning of Ramadan.



peered in at ceiling level from the open windows that pierce the mosque's dome. From this record, and from the ground plan, it was possible to imagine that the

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mosque pre-dated its traditional association with the 16th-century figure of Iskandar, who ruled in Zabid between 1530 and 1536, and whose name was found inscribed on the minaret as its sponsor. Based on the ornate inscriptions in Arabic



that embellish its exterior (see *Rotunda*, Fall 1986), we speculated that the building was originally built in the 13th or 14th century. The minaret was a later addition.

In 1987, when the ROM expedition took up its base in the Zabid citadel for the first time, the profile of the mosque's dome and

tall minaret on the far side of our compound became an intimate part of our lives—and not always for the better. As electricity was introduced to the town, garish fluorescent lights were attached to the top of the minaret, ending its moonlight charm; early morning prayer amplified by microphone was a nasty jolt at 5 a.m.; and when locked doors were added to bar the increasing numbers of inconsiderate tourists, we found ourselves excluded from what we felt was our mosque.

As we continued our excavations in the citadel, our only contact with the mosque was the handful of old-guard (pre-1962-revolution) garrison soldiers who would regularly shuffle down the alley to it for the prescribed five-times-a-day prayer. The Imam, or community prayer leader, was of the same vintage. He was so frail he often didn't bother leaving the mosque during the short interval between the two afternoon prayers. He died in 1996.

That same year, with restoration of buildings in the ROM's compound in the citadel largely completed, we turned our attention again to the mosque, with the benefit of a ROM Foundation grant. We hoped that we might find out more about the date of the original building and confirm what we had suspected about the addition of the minaret. As well, we expected to remove some of the whitewash and produce a more complete picture of the painted ceiling and walls. The decorations appeared to contain details consistent with 13th- to 14th-century Islamic design in general, and they would allow us to look at the metal vessels, carved woodwork, and book covers in the ROM's collections with a fresh eye.

The old Imam was replaced by a college student, which was fortuitous: he seemed amenable to our interest in the mosque. To keep our intrusion to a minimum, we concentrated our efforts in the cloistered

From beneath the mosque's white-washed skin, a ROM research team has uncovered something of the building's former decorative charm, revealed truths that elevate it in academic importance, and inspired students to re-establish a 500-year-old school that had lain dormant in the mosque for decades

Left: The mosque stands proudly along the wall of the citadel in Zabid, Yemen.

The ROM's Islamic Galleries recreate a mediaeval mosque, shrine, house, garden, and market—interlocking to create a symbiosis as occurs in Yemen.

courtyard outside the main prayer hall. And to gain the confidence of the local religious authorities, we included some basic roof repairs, using the same builders and the same kinds of materials as in our previous citadel restoration work. The young



Imam encouraged us to clear a passage to a bricked-up room. Once we installed a door and window, he was able to use it as a pied-à-terre in the afternoon, as he couldn't always afford the ride to the mosque for every prayer. Sometimes fellow students joined him, and the space became an informal reading room. Pleased with his new quarters, the Imam was now quite willing to counter any complaints about outsiders working in the mosque.

Meanwhile, our initial efforts to remove the multiple layers of whitewash were proving successful. Former ROM preparator Peter Mitchell devised a method of injecting glue into the cracks in the plaster to stabilize areas that were in danger of falling. Syringes were available at the local pharmacy, white glue in the carpenters' market. This was important, as a project's sustainability often depends on local access to supplies. A thin solution of glue was also used to stabilize the paint.

Emboldened by this success, we made some initial attempts to remove the extremely thick layers of whitewash that obscured the carved decorations around the *mihrab*—a niche indicating the direction to be faced during prayer, and the mosque's most revered space. It soon became apparent that the inscription on both sides of the *mihrab* was not the standard kind of verse from the

Koran often carved in mosques. Rather, the text had repeated references to measures of land. This was clearly something that deserved more attention, given the team's interest in the landscape of Zabid.

We returned in 1998 to investigate further. In order to reach high into the crown



Top: To gain the confidence of local religious authorities, the ROM included some basic roof repairs in its work.

Bottom: Scaffolding allowed the ROM conservation team to work high in the mosque's dome.





of the dome, we commissioned a welder to custom-build a scaffold. Our government representative, Abdul Habib, insisted that the pieces be assembled before final payment, and this was done outside the mosque. I watched it go up with a combination of admiration for our workers' agility—as they swung like trapeze artists between the struts—and nervousness that I may have specified the wrong dimensions. Happily, by the time ROM conservator Ewa Dziadowiec arrived, the scaffolding was already safely inside.

Not surprisingly, given her previous career in Poland as a conservator of church painting, Ewa rose to the occasion, mounting the scaffolding with aplomb. Beneath the apex of the dome she was in her element. Nancy Willson, who assisted her, screwed up the courage to sit atop the scaffold platform, navigating her way out onto it via the same window through which she had peered with binoculars 16 years before. With the time and resources available, we were able to clean, stabilize, and refurbish the paintings in one of the dome's supporting cupolas. Splendid peacocks' feathers slowly emerged from beneath the dirt and grime that was swabbed away, and the fading paint was in-filled to restore its original colour and strength. From below, the view was marvellous.

As the whitewash was removed from the inscription next to the *mihrab*, we wrestled to unravel the words. Written deliberately as a tour de force, with letters of the Arabic script transposed for aesthetic effect, the inscription defied the comprehension of even native Arabic speakers. Back at the ROM, using a rubbing of the inscription, Abdul Guchani, an epigrapher visiting from Iran, helped us identify a word for "canal" together with words for "harvest" and "harvest grain measure." These clues became the catalyst that challenged our Yemeni colleagues to crack



Top: The ornate decorations with Arabic script that embellish the mosque's walls suggest that it was built in the 13th or 14th century.

Bottom: Ingrid Hehmeyer, associate in the ROM's Department of Near Eastern and Asian Civilizations, works at removing the mosque's outer skin of whitewash.

Left: This inscription records the dedication of land and harvest product in support of a religious school attached to the mosque. Dated AH 940/AD 1533, the panels appear to have been added some 200 to 300 years after the mosque was built.

the code, which indeed they did. The text is a priceless carved-in-stone record of the dedication of irrigated land and additional harvest product in support of a religious college, or *madrasa*, attached to the mosque. Best of all, the dedication bears a date: 940 in the Muslim calendar year, which corresponds to the Christian year AD 1533. The donor's name is Iskandar, the same as that on the minaret.

Originally, Iskandar was a mercenary in an Egyptian Mamluk army sent in 1516 to protect the Red Sea against Portuguese intrusion. When the Mamluks were overthrown in Egypt by the Ottoman Turks, he and his fellow soldiers found themselves without a leader, but with military control over part of Yemen. For the next few years they fought to maintain this position against Yemeni uprisings and the murderous intrigues of their colleagues. In 1530, Iskandar took his turn ousting his rivals, maintaining authority with a combination of cunning and fair play.

He earned a place in history by establishing the *waqf* or foundation trust in support of the Zabid school, even though memory of the transaction had long since been forgotten until the ROM team peeled away the mosque's whitewash. The insight this 16th-century dedication gives us is invaluable. The inscriptional panels had been inserted into the wall of an already existing building. In fact, at that time it may already have been in serious need of repair, perhaps even in danger of collapse. One may imagine that it was by virtue of its dilapidated state that Iskandar could have

so completely taken over the building. Other than the ROM's hypothesis of its 13th- to 14th-century beginnings, no tradition of the building's origins exists.

Statements about the land, which was given in support of the charitable trust, also render the text priceless. It is the earliest

reference by name that we have to some of the canals that still function as an integral part of Zabid's agricultural life. This reference suddenly gives substance to analytical work we have conducted in the past on the region's water distribution systems (*Rotunda*,



Top: ROM conservator Ewa Dziadowiec restores ancient paint in the mosque's dome to its original colour and strength.



Bottom: Among the mosque's worshippers is a pre-revolutionary soldier (shown holding beads).

Right: Splendid patterns consistent with 13th- to 14th-century Islamic design emerged from beneath the whitewash, dirt, and grime that was swabbed away from the mosque's walls.



Winter 1993/94). We tried to establish when the infrastructure for the diversion barrages and the canal system had been put in place; our argument is that political stability was necessary in order to have a properly managed irrigation system, and that Zabid's economic prosperity was due

to the productivity of its farmland.

Ironically, in 1997 the young Imam himself inherited the equivalent of 100 acres of land and left his calling. He was replaced by a more mature individual who has attracted a "circle" of students. They sit in

our hope that we will continue to reveal more of its hidden details. Beyond its visual charm, the mosque/*madrasa* is worthy of academic attention. Its painted ceiling decorations provide a relatively uncommon example from the 13th- to 14th-century Is-



the afternoon prayer-time interval reciting the Koran and discussing its meaning. The reading room just off the cloister has become an apartment; there are now students in residence.

The ROM team has earned the right to look into the heart of a mosque, and it is

lamic world, and its *waqf* text irrefutable evidence of the importance of sponsorship in sustaining intellectual life in mediaeval Zabid. But in the end, I admit, it is perhaps most satisfying to know that by doing this work we have put life back into a forgotten school. ♡

IN THE CAVE OF THE DRAGON TOOTH

The Continuing Quest for Human Origins


BY CHEN SHEN

A CENTURY AGO, ON THE INDONESIAN Island of Java, a young Dutch doctor by the name of Eugene Dubois uncovered skeletal remains that shook the world of archaeology: a human skullcap, a femur, and a molar—the first early hominid fossils ever found. Now known to have belonged to the early human ancestor *Homo erectus*, they provided the first tangible evidence of human evolution. The skull, with its less

protruding jawline, and brain case larger than an ape's but smaller than our own, provided a missing *human* link between the primates and our own incarnation as modern *Homo sapiens*. The fact that the discovery took place in Indonesia prompted a question still debated by scientists a century later: Where did humans originate?

Even in Dubois' day, it was widely believed that our ancestors originated in the



A group of six people are posed in front of a large, textured rock formation. In the center, a man with glasses and a light blue shirt stands with one hand on his hip and the other holding a red and white measuring pole. To his left, a man in a white shirt and blue jeans is crouching. In the foreground, a man in a green polo shirt and a man in a white shirt are standing. To the right, a man in a white shirt is crouching next to a large wicker basket. Another man in a white shirt is standing on the far left. The background is a massive, layered rock wall.

In the last issue of Rotunda, Earth Sciences curator Robert Walter examined possible migration routes of early hominids out of Africa. Here, archaeologist Chen Shen looks at the timing of that migration—and the possibility of an alternative place of human origin.

Above: Dr. Chen Shen (top right) gathers with the rest of the excavation team outside Longyadong Cave, in China's Shaanxi province, where stone artifacts half a million years old have been uncovered.

African tropics. His discovery was the first call to search for Asian origins. Twenty years later, that search continued, this time in northern China, where in 1929 a team led by Toronto anatomist Dr. Davidson Black made headlines with the discovery of a well-preserved human skull 400,000 to 500,000 years old, also *Homo erectus*, known as "Peking Man."

China holds vast promise to provide further evidence of the earliest humans. But during World War II and China's subsequent civil war, palaeoanthropological research there ground to a halt; the next fossil remains were not uncovered until the 1950s. With the establishment of the People's Republic of China in 1949, and political struggles lasting another two or three decades, the quest for human origins again dropped from the priority list, and outside researchers were unwelcome.

Meanwhile, work in Africa continued, bringing to light important new evidence. Remains of our earliest ancestors, the relatively ape-like Australopithecines (dating to about 3 million years ago), were excavated, as were many intermediary fossil hominids whose date sequences revealed the synthesis through time of primitive and emerging modern human features. On the basis of these finds, it is believed that our own species, *Homo sapiens*, evolved approximately 100,000 years ago from the earlier *Homo erectus*, whose evolution began about 1.8 million years ago. This evidence did much to popularize the so-called Out of Africa theory—that early humans originated in southeastern Africa and from there migrated into Europe and Asia about a million years ago.

Not all scientists agree with the theory. Some postulate two different ancestries for *Homo erectus*, originating independently on different continents. Some Asian fossil remains indicate a wide enough divergence in physical features from their counterparts in Africa to suggest a different species. To date, evidence to support a multiregional-origin theory is limited compared with the African evidence, but this may be largely a factor of past inaccessibility to fossil remains and artifacts in China. Since the

1980s, when China once again took up the thread of research and re-opened its doors to Western scientists, nearly a thousand major Pleistocene sites have been identified throughout the country, and close to a hundred of them have yielded remains of early hominids.

While at least eight Lower Palaeolithic sites are dated to more than a million years ago, the earliest site has now been confirmed as 2 million years old. In the fall of 1998, Professor Huang Wanpo of China's Institute of Vertebrate Palaeontology and Palaeoanthropology announced new evidence suggesting that the earliest hominids, *Homo habilis*, lived in southern China more than 2 million years ago. A lower left jaw with two teeth, dubbed "Wushan Man," was found on the northern shores of the Changjiang (Yangtze) River, near the border of Sichuan and Hubei provinces, in association with large bifaces and hammerstone tools—the earliest record of human-made tools in China. An international team, including Canadian, American, and British scientists, has now confirmed the date using palaeomagnetic analysis and electron spin resonance.

If African hominids did indeed migrate to Asia a million years ago, how do we explain the fossil evidence in China that pre-dates a million years? If the dates are not wrong, the migration to Asia must have taken place a million years earlier than is thought. Or, perhaps, the African species never did reach the eastern regions of the Asian continent . . .

Although the Chinese materials are not yet fully studied, and there are still problems with the dating of some sites, the speed at which researchers are finding early hominids and their associated material cultures in China lends additional credence to the idea of diverse places of origin. With my fieldwork in China, I hope to find evidence that will offer new insights into the mystery of our origins. In 1997, I was invited to participate in an expedition sponsored by the Chinese Government in Shaanxi province. With this invitation, the ROM became one of the few Western institutions to have a presence in China. It also allowed the Museum to revisit its own origins: it was from

Early Hominids in China

TIME
(YEARS AGO)

5500 (3500 B.C.)

10,000 (8000 B.C.)

20,000

50,000

100,000

250,000

700,000

1,000,000

1,500,000

1,800,000

2,000,000

3,000,000

5,000,000

Dr. Chen Shen is the Bishop White Curator of Far Eastern Art in the Department of Near Eastern and Asian Civilizations, Royal Ontario Museum



INDIA

GEOLOGICAL EPOCHS	ARCHAEOLOGICAL PERIODS	EARLY HOMINIDS (FIRST APPEARANCE)
Holocene	Neolithic	
Late Pleistocene	Upper Palaeolithic	
Middle Pleistocene	Middle Palaeolithic	Modern humans
L O N G Y A D O N G C A V E S I T E		Archaic <i>Homo Sapiens</i>
Early Pleistocene	Lower Palaeolithic	<i>Homo erectus</i>
X I A O C H A N G L I A N G S I T E		<i>Homo habilis</i>
Pliocene		<i>Australopithecus</i>



China that some of the ROM's first and finest collections were obtained.

* * *

In July 1997, I arrived in Xi'an City, near the site of the famous terra cotta warriors, and embarked on the five-hour bus trip to the excavation site in Longyadong cave. The name, in Chinese, means "cave of the dragon tooth," a nod to the local villagers who discovered it while in search of fossils or "dragon bones" to sell to local apothecaries as medicine. Archaeological investigation of the region began in 1995 after a geologist from Northwest University at Xi'an identified a *Homo erectus* tooth of the Middle Pleistocene (some 500,000 years old) among the fossils in one of these shops.

Spiralling upward through the Qinling Mountains, enjoying the scenery that geographically divides China into north and south, I was reminded of the significance of this divide to my work: early humans living on either side of the mountains used different tool technologies. In southern China, early hominids used relatively large, heavy-duty tools, while in the north, smaller flake tools were predominant.

Lithic technology—the study of how stone tools were made and used—reveals much about primitive humans. While geologists and palaeontologists look for archaic lithostratigraphic material in association with faunal remains to determine the palaeoenvironment in which our ancestors might have lived (see *Rotunda*, Fall/Winter 1998), and physical anthropologists concentrate on evidence of physical changes and variations of early hominids over time and across regions, as an archaeologist I am particularly interested in the adaptive strategies or behavioural patterns of early hominids.

Through a process called use-wear analysis, stone artifacts are scrutinized under a powerful light microscope. The scratches and abrasions indicate how a tool was used. Experimenting with the processes of removing flake tools from a larger stone "core" suggests how primitive humans would have made their tools. Observation of where and how raw materials were gathered for tool-making provides clues about how early hominids made use of their environment. Differences in tool technology, as well as similarities, over time and across regions,

give us a broader understanding of early human behaviour patterns.

If hominids did in fact arrive in China from Africa, it would be reasonable to assume that they would have brought their tools and tool-making methods with them. In that case, one would expect a certain similarity of lithic materials from the Asian and African collections. However, if the technology in Asia turned out to be quite different, what might that mean?

When I arrived at the Longyadong Cave site in the Lounan Basin, about 1000 metres above sea level, I joined my colleague Shejiang Wang from the Shaanxi Institute of Archaeology; it was Mr. Wang who had invited me to be a part of this expedition. Two years before, he had uncovered a layer of human occupation in the cave—flake tools, fossils, hearths, and ash-pits—very well preserved, buried about 2.5 metres below the surface. With the help of a local team eager to learn the methods of Western archaeology, we continued the work together. By the end of our six-week field season, three cultural layers reaching 5 to 6 metres in depth had yielded more than 30,000 lithic artifacts and thousands of pieces of faunal remains—a significant find for the Lower Palaeolithic. The site was named one of China's top 10 archaeological discoveries in 1997.

Estimated to be 500,000 years in age, the cave site falls within a period geologically defined as the end of the Middle Pleistocene. But with three separate cultural layers, the site may have been occupied over a period of at least 200,000 years, a scenario supported by the results of four thermoluminescence dates. The prominence of deer bones and teeth among the faunal remains indicates that the occupants hunted this animal for food. But most intriguing were the stone tools. The relatively small size of the artifacts found at the cave indicates what is called small flake tool industry, common in northern China. We suspected that a relatively sophisticated method called "anvil chipping" had been used to produce the tools. Using raw materials found at the site, Mr. Wang and I tested our hypothesis. A "core" nodule of stone was held in both hands and swung down against a large block on the ground to splinter off individual flake tools. After

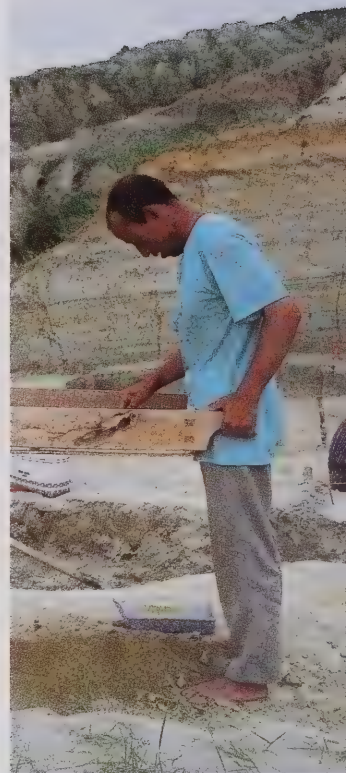
comparing attributes of flakes and core from these experiments to those found at the archaeological site, we determined that this method had indeed been the common practice in the cave. Other methods such as direct hard-hammer percussion and bipolar technique had also been used at the site.

Outside the cave, however, we found a different story. Close to 40 open sites were discovered within a 10-kilometre radius of the cave, probably indicating temporary stays. By contrast, these sites yielded mainly large triangular biface tools and heavy choppers, no evidence of which had been found inside the cave. These tools indicated a completely different type of technology called core/pebble tool industry, normally found in southern China. Did these two different toolkits simply represent different economic strategies employed by the same group of early hominids? For example, did they use large biface and chopper tools in open-air butchering sites and smaller tool types inside the cave for meat-processing and hide-working? Or were the different tool types used by different groups of hominids co-existing in the area? I don't think we can dismiss the second possibility, but further use-wear examination is needed to tell us more.

In the summer of 1998, supported by the ROM Foundation, I led my own field expedition at Xiaochangliang. This site in northern Hebei province is about 500 kilometres east of Longyadong Cave and 120 kilometres west of Beijing, where the famous Zhoukoudian site of Peking Man fame is located. Our study area is within the Nihewan Basin, which stands at approximately the same elevation as Longyadong Cave and has long been recognized as palaeoarchaeologically significant. Western geologists and palaeontologists have worked there from as early as the 1920s.

Our work site, first identified in the late 1970s, was the first to fall indisputably within a layer of Early Pleistocene Formation, making it over a million years old. Using palaeomagnetism, scientists have determined its age to be about 1.2 million years. Unfortunately, the site had not been excavated systematically until my team arrived.

The hot, dry days passed with our first





Above left: At the Xiaochangliang dig site in China's Hebei province, layers of soil are excavated, then sieved through a screen to uncover evidence of our early human ancestors.

Above right: ROM archaeologist Chen Shen holds one of the first stone flakes removed in 1998 from a test pit at Xiaochangliang to determine where the excavation units should be laid out.

Bottom: Tools found in excavation units outside Longyadong Cave in 1997 are significantly smaller and less rugged than those found at open-air sites a few kilometres away, suggesting that two different types of lithic technology were used by hominids in the region.

test squares revealing only a few faunal remains. Searching further afield for clues, we came across an area with a few small flakes scattered on the surface—promising evidence of human activity. Nearby we tried again and excitement ran high when we found our first two flakes and the core from which they had been removed. We had uncovered tools fashioned by human hands at least a million years ago.

Given their antiquity, the tools were startlingly small and delicate. Like other tools uncovered in the area, these looked like something you might expect from a much later period, and they are quite distinct from the heavy hand-axes used in Africa at about the same time. Did this mean that the hominids in China were particularly clever? As we examined more sites, it became clear that the poor quality of the raw materials seems to have limited the size of tool that could be produced. Ninety per cent of the lithic artifacts found were waste by-products, including poor, rough-grained chert, quartzite, limestone, and sandstone, which seems to indicate that the tool makers had no idea what materials to select. They were trying whatever came to hand, and discarding the by-products of their failed attempts. At this stage of human evolution, it seems our ancestor's mind was still quite primitive.

The site was once the beach of an archaic lake, and early hominids may well have lived here during specific seasons of the year, returning again and again over long periods of time. Archaeological sites found in the region span time from the Early Pleistocene (Lower Palaeolithic) to the Holocene (Neolithic), representing over a million years, which leaves open the possibility of continuous local evolution.

* * *

The materials from my two years of fieldwork are still under study and a ban on removing artifacts from China makes a thorough analysis challenging. We are currently working towards a joint partnership with Chinese scientists to establish a permanent field station in the Nihewan Basin. More than two dozen prehistoric sites have been identified in the region, only two of which have been excavated. Four of the sites are dated to more than a million years ago, and one is

BLACK AND WHITE IN CHINA

TORONTO'S CONNECTION TO ARCHAEOLOGY IN China dates to the early part of this century with two legendary Toronto figures: Dr. Davidson Black and Bishop William C. White.

Born in Toronto and educated at the University of Toronto, Dr. Black was the driving force behind the international team that discovered the now-renowned Zhoukoudian site. Through Dr. Black's efforts, the Rockefeller Foundation sponsored the excavation, and in 1929 the team made their sensational discovery of a well-preserved *Homo erectus* skull. Black named the fossil *Sinanthropus pekinensis*, now known to the world as "Peking Man." He also established the Cenozoic Research Laboratory of the Geological Survey of China, now called the Institute of Vertebrate Palaeontology and Palaeoanthropology, an important institution that carries out research on Asian origins of the human genus *Homo*.

Another Toronto resident, William C. White, took up the post of Bishop of Henan province in China, arriving in Kaifeng in 1910. The bishop's interest in Chinese heritage led him to numerous archaeological sites. He began to acquire artifacts for the Royal Ontario Museum and, with his extensive knowledge of Chinese archaeology, was able to obtain remarkable items from excavated fields. These treasures are in part responsible for the reputation of the Museum's Chinese collection as one of the greatest outside China. As the Keeper of the Far Eastern Department at the ROM and a professor at the University of Toronto, Bishop White contributed greatly, not only to the ROM's collections, but also to the study of Chinese history. In 1960, his students and colleagues honoured his contribution with the founding of the Bishop White Committee, which supports the study of Far Eastern art at the Museum.



Dr. Davidson Black



Bishop William C. White

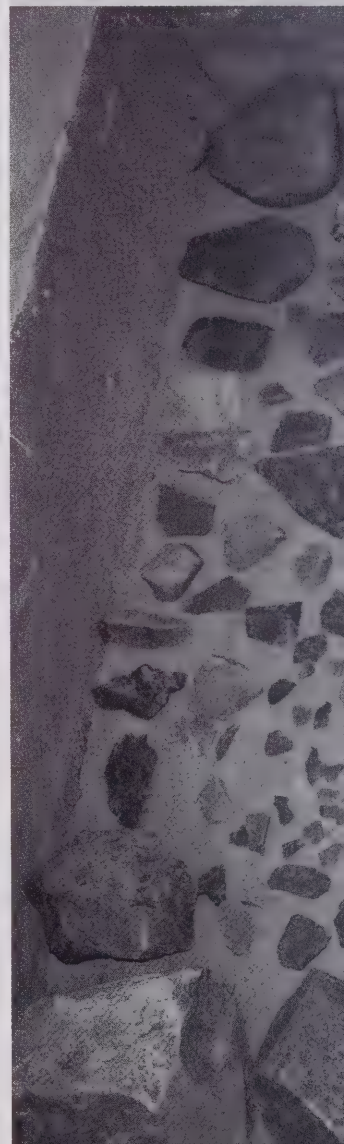
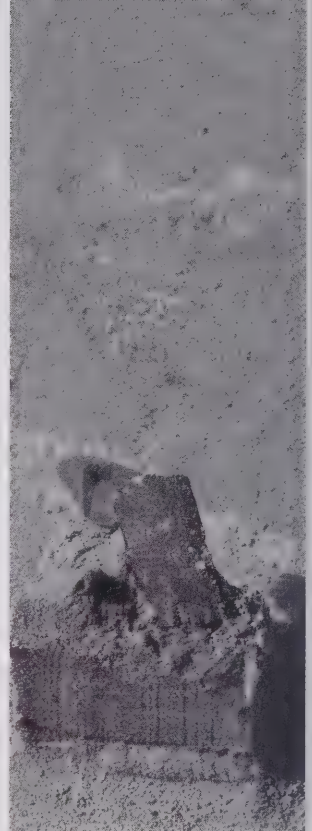
estimated to be about 1.5 million years old. The abundance of lithic technology found in this area suggests that it was densely populated by early hominids. If we are finding the tools, the exciting potential exists for uncovering the fossil remains of their makers. The ROM's China team is working hard towards this long-term goal, and it is our hope that future expeditions will realize China's vast potential to illuminate the origins of humankind.

What is clear from the work done so far is that a group of early hominids had settled in northern China as early as 1.5 million years ago, and in southern China 2 million years ago. The northern group produced flake tools. Their primitive cognition limited their tool-making to simple techniques. More complex techniques, such as bipolar and anvil chipping, began to develop around 500,000 years ago in the region. During the Middle Pleistocene, another type of lithic technology, core/pebble tool industry, crossed the border to emerge into the southern part of northern China. There, the two different technologies co-existed in a cultural region.

Chinese archaeologists strongly believe that the core/pebble tool industry evident in southern China as early as 2 million years ago is quite similar to the technology used in Africa at the same time or slightly earlier. But the flake tool technology of northern China differs substantially from that of its neighbours to the south and from that of Africa. To date, a true hand-axe of the type commonly used in Africa has never been found in either northern or southern China.

Which brings us back to "Out of Africa." Even if groups of hominids arrived from Africa at different times, bringing with them their own technology, some may have changed their living patterns to adapt to the new land with its different climate, landscape, resources, and raw materials for tool-making, while others retained the old ways. Archaeologically, I would see two different lithic technologies, both produced by early migrants. Two different technologies do not necessarily indicate local evolution of hominids.

By the same token, similarities between lithic technologies in southern China and Africa don't disprove the lo-





Above right: These stone cores represent only a few of the many raw materials that were gathered for tool-making by early hominids. The selection process evident at Xiaochangliang appears too haphazard to represent an established strategy.



Above left: A fossilized bone deposited vertically *in situ* was likely disturbed by water from an archaic lake in the Nihewan Basin.

Bottom: More than 30,000 stone tools and waste flakes believed to have been made by the early human ancestor *Homo erectus* were uncovered at the Longyadong Cave site.

cal-evolution theory either. If groups of hominids originated locally in Asia, never meeting their African friends, they may, in the vastness of China—from tropics in the south to subtropics in the north—have adapted to their environments by applying different techniques of tool manufacture and use. And given that some tropical environments in China may be similar to those in Africa, the adaptive strategies of Asian hominids may coincidentally be similar to those of their African counterparts.

But there is another intriguing possibility to explain the different technologies: local hominids may have lived happily in Asia for a million years until suddenly one day, on their way to the hunt, they encountered African strangers who were now competing with them for food. Is this the scenario we encountered at Longyadong Cave? What might have happened? Would the two species have killed each other, with one group replacing the other? Or would they have lived together peacefully, exchanging knowledge and technology, and interbreeding to create a new race?

The information we gather about how our ancestors lived in various continents is crucial to our search for answers. We must understand how early humans dealt with a difficult environment, how they made their way from one place to another, over distances ranging from a few miles to hundreds of thousands of miles. Through further examination of their technologies, along with evidence from physical anthropology, we may some day be able to determine whether early hominids had the ability to travel over long distances, and if so, when?

Although it is still too early to draw conclusions, it seems that my study does not support the timing of an “Out of Africa” migration a million years ago. If we hold firm to the Africa theory in reading my results, we’d have to say that African hominids migrated to Asia and arrived in what is now southern China as early as 2 million years ago. But the nagging question remains: Considering their primitive cognition at that time, how could they have traversed that kind of distance? ♡

Film footage from Dr. Shen’s expedition can be seen in the new Discovery Gallery, which opened early in February.

FALL OF THE SHOREBIRDS

*A drastic decline in shorebird and horseshoe crab
populations is causing concern among conservationists*

BY CATHY AMLEY



LAST APRIL, ALONG THE EMPTY BEACHES OF DELAWARE Bay, we watched for waves. Not the salty, spindrift waves of the North Atlantic, but waves of shore-birds we knew would be arriving any day after a gruelling 8000-kilometre flight from Lagoa do Piexe, Brazil. Along a migration route that takes the birds from their wintering grounds in Tierra del Fuego, Argentina, to their breeding grounds in the Canadian Arctic, these American beaches form a crucial “staging” area, a place where the birds rendezvous to replenish their fat reserves before continuing their astonishing 15,000-kilometre journey.

ALLAN BAKER, ROM

Cathy Ayley is administrative coordinator in the Centre for Biodiversity and Conservation Biology, Royal Ontario Museum.



Spanning the border between Delaware and New Jersey, the beaches also provide an excellent location for shorebird observation. I was privileged to join an international team of researchers, headed by Dr. Allan Baker of the ROM's Centre for Biodiversity and Conservation Biology, in their study of shorebird migration, conservation, and ecology. In Delaware Bay, we were hoping to gather data on birds banded earlier in the year in South America, and to band many thousands more. Our focus was on several species—including red knot, sanderling, and ruddy turnstone—whose amazing set of biological

Where once more than a million shorebirds turned the beaches of Delaware Bay into a moving sea of life each May and June, the last several years have seen some beaches almost bereft of birds



Previous page: Poking and prodding in the sand for horseshoe crab eggs, red knots in breeding plumage feed at low tide on a Delaware Bay beach.

Above: Cold, wet scientists and volunteers huddle behind a canvas shelter on a rainy, blustery day as they band and record a catch of shorebirds. The burlap "keeping" cages seen in the foreground hold the birds until they are banded.

adaptations allows them to undertake these long and hazardous annual migrations, depending along the way on a few key stopover sites for the resources that fuel their flights.

Each March for the past three years, the team of experts from Australia, the United Kingdom, The Netherlands, the United States, and Canada, has joined local conservationists at staging areas in Argentina and Brazil to trap, measure, weigh, and band shorebirds with colour bands that identify the location and year of catch. Each May, the team "follows" the birds to Delaware Bay. This area was designated the first reserve in the Western Hemisphere Shorebird Reserve Network (WHSRN), a collaboration of conservation organizations, including the ROM, that works to conserve shorebirds and assist local efforts to protect their natural habitat and resources. Delaware Bay is one of the most critical staging areas along the Western Hemisphere Shorebird Flyway. The reason? Horseshoe crabs.

Each May and June, in one of nature's greatest spectacles, hundreds of thousands of these marine arthropods come ashore in the bay to spawn (see *Ancient Survivors*, page 41). Female crabs lay up to 88,000 eggs a season, and it's these tiny eggs, each the size of a pin-head, that provide the knot, sanderling, and turnstone with their principal food source. As billions of pale green eggs are deposited on the beaches, newly arrived birds gorge themselves in a feeding frenzy interrupted only occasionally for preening or rest.

Each bird must consume enough crab eggs to replenish the fat reserves that will carry it a further 4000 kilometres to its Arctic breeding grounds, where it must establish a territory and find a mate within a short period after

MARK PECK, ROM

arrival. The timing is critical in ensuring that young birds hatch when the insect population is at its peak and the food supply abundant, as the hatchlings must fend for themselves and fledge soon enough to migrate to South America before the Arctic winter sets in. Any disruption or delay in reaching the breeding grounds can have serious consequences for these bird populations. A loss of habitat or food supply in a staging area could have disastrous effects on their breeding success and survival.

Surveys over the past five years by Delaware and New Jersey conservation officials and biologists indicate an alarming trend: both shorebird and horseshoe



crab populations have declined drastically. Where once more than a million shorebirds turned the beaches into a moving sea of life each May and June, the last several years have seen some beaches almost bereft of birds. We are concerned that this decline may be caused by the over-harvesting of horseshoe crabs.

* * *

Miles from the beach where it came ashore, a lone horseshoe crab has fallen from a truck on the way to market. It lies on the highway, a grim reminder of the potential ecological crisis in Delaware Bay.

A survey conducted between 1970 and 1997 of crabs spawning on several New Jersey beaches showed a decline in numbers from 800,000 to 150,000. Although local crabbers have harvested in the bay for decades, it's only in the last several years that horseshoe crabs have become the desired bait for conch- and eel-fishing. Eager to cash in on the boom in prices, crabbers from other states have joined the locals. Over the past two years, the average price has doubled to \$1 per crab. In Delaware, trucks loaded down with crabs, heading for Maryland or Virginia, are a common sight.

While excessive crab harvesting is the likely cause, loss of habitat is also contributing to the decline of both crab and bird populations. Pressure from development, combined with seasonal nor'easters—storms with hurricane-force winds that batter the Delaware coastline—has reduced beachfronts considerably. In many areas, only a few inches of sand remain, limiting the space available for crab spawning and bird feeding. Replenishing beaches with sand dredged from the bottom of the bay is currently being debated in Delaware, and our research should provide new data about the desirability of this plan.

Of the many threats to the bay's continued viability as a primary staging area,

In an explosion of sand and debris, a cannon net is fired, shooting out over a large group of startled shorebirds.

one stands out as having the greatest potential impact on the whole ecosystem. Each night, the lights of half a dozen oil tankers could be seen as they waited to unload their cargo onto barges to be taken up the bay to refineries. Delaware Bay is the second largest oil-shipping channel in the United States, and the spectre of an oil spill hangs over it as heavily as the clouds of a building nor'easter. Officials from the U.S. Fish and Wildlife Service fear it is only a matter of time before such a catastrophe occurs. They have an emergency plan ready for action, but it would do little to rectify the environmental degradation that would certainly occur. A spill in May or June would be disastrous for the shorebird populations.

* * *

When we arrived at Slaughter Beach in Delaware Bay, during the last week in April, the birds and crabs had not yet arrived in significant numbers. Our advance team of three spent the first several days making equipment and reconnoitering the local beaches. We were led by Australian researcher Clive Minton, who has studied migratory shorebirds worldwide for 50 years and is a world expert on cannon-netting, the method we would be using to catch birds.

Assisted by staff and volunteers from the Delaware Coastal Management Program, we made our first catch on April 29. With the exception of Clive, we were all new to the intricacies of cannon-netting. I

quickly learned that while several hundred birds can be caught in a split second, getting the net set up for a good catch can be a painstaking and frustrating procedure. After determining the best location on the beach to catch birds, we began to furl the net and dig the cannons into the sand. We loaded the projectiles, attached to each end of the net, into the cannons, which we camouflaged as much as possible, before retreating about a hundred metres to lie down in the sand, out of the birds' sight.

Patience, at this point, became an absolute prerequisite. To our frustration, large flocks of birds landed several hundred metres from the catch area, or teasingly close to the net, but just out of range. Several team members were called upon to perform the fine art of "twinkling," moving in behind the birds and gently coaxing them along the beach until within range of the nets. This procedure can take hours.

When finally there were enough birds to make a small catch, I realized that most of my limbs had gone to sleep as I waited. But as the net shot out over our unsuspecting targets, I raced down the beach with the rest of the team to pull the birds out of the water as quickly as possible. They were taken from the net and placed in "keeping" cages, burlap-covered compartments where they could calm down and dry off before being examined and banded. Our first catch yielded approximately 70 birds, mostly sanderling and turnstone.

It soon became apparent that most had only just arrived from South America, as their body weights were low and many sported less than 50 per cent of their breeding plumage. This first catch, though modest, would provide impor-



Allan Baker of the ROM's Centre for Biodiversity and Conservation Biology bands one of the tens of thousands of red knots that stop over in Delaware Bay on their 15,000-km annual migration.



DENNIS ELPHICK

tant data about the birds' condition upon arrival. If we were fortunate enough to catch some of them again before they departed, we could gauge their success in replenishing body fat and observe any other changes in their condition.

After two more small catches near Slaughter Beach, several days later we headed for the New Jersey side of the bay to Reeds Beach, a world-renowned shorebird site. Assisting us were staff from the New Jersey Endangered & Nongame Species Program (Division of Fish, Game & Wildlife), who were eager to affix radio transmitters to 50 red knots to investigate how much the birds move between the New Jersey and Delaware sides of the bay.

Last year, shorebirds were evenly distributed on both beaches during the first part of their stopover. The birds on the New Jersey side, however, moved across to the Delaware side halfway through their stay. Researchers attribute this to reduced crab populations on New Jersey beaches, the result of excessive harvesting before 1996. Last year, local conservation officials and non-government environmental organizations were successful, in part due to expert testimony from Allan Baker and Clive Minton, in persuading the governor of New Jersey to issue a complete moratorium on crab harvesting. Unfortunately, the ban was overturned six months later when its legality was challenged by the New Jersey Marine Fisheries Council. Currently, the Atlantic States Marine Fisheries Commission is drafting a plan to manage and conserve the crab stocks. The information gathered by our expedition will be useful in the drafting of this plan and, we hope, eliciting support from the press and public for conservation initiatives.

Our first catch in New Jersey yielded 13 knots, five of which were fitted with transmitters. Two days later, signals from two of them were picked up in Delaware, indicating that the birds do move between the two sides of the bay. As slightly more crabs had come ashore in Delaware than in New Jersey at that point, this seemed to confirm the theory that crab numbers are the key factor in attracting the birds.

As days passed, bird counts began to rise steadily. Several hundred knots had now been censused in the area, still a long way from the tens of thousands expected by mid-month. Two more catches in Delaware yielded more than 500 birds, among them five that had previously been banded in Brazil and one in Argentina. Unfortunately, on May 7, the weather changed drastically. A spring storm blew into Delaware Bay, putting an abrupt halt to crab spawning. A major crab influx anticipated with the full moon on May 11 never materialized, the beaches remaining virtually empty. Although the weather improved two days later, the storm had left Delaware shores covered in black muck. The crabs didn't return for another week.

In mid-May, the team was joined by Allan Baker, eight volunteers from the U.K., and two conservationists from Argentina, including Patricia Gonzalez,



Left: A far cry from the rich red plumage it sports during breeding season, this red knot is in full winter plumage.

Above: The newly affixed leg band and flags identify this bird, the year it was banded, and the place it was caught—valuable information for researchers if the bird is retrapped on a future expedition.



MARK PECK, ROM

DENNIS ELPHICK

Additional information can be found on the ROM's Web site (www.rom.on.ca); click on "Deep Stuff" and the "Ontario Bird Field Guides."

who has been instrumental in protecting vital shorebird habitat in her hometown of San Antonio Oeste. Some 20,000 knots had now been censused in New Jersey. A catch at Reeds Beach on May 17 showed a wide variation in bird weights (one knot weighed a scant 93 grams while another weighed in at 176 grams), indicating that many birds were only just arriving from South America while others had been in the bay, fattening up, for several weeks.

Over the next few days, weights in catches on both sides of the bay continued to reflect the presence of new arrivals. But as the days progressed, the gap between the highest and lowest weights in each catch narrowed. Favourable weather conditions and the large number of crabs now spawning resulted in fairly consistent weights of about 190 to 200 grams. Some of the late arrivals increased their body fat suddenly and dramatically; one retrapped bird gained 37 grams—the equivalent of a 150-pound person gaining 27 pounds—in only three days. The weight of some retrapped birds remained constant over several days, which led us to wonder whether they were simply "waiting" until their biological clocks told them it was precisely the right moment to leave. As if on cue, the birds departed almost en masse on May 30 and 31. We made only small catches of 20 to 30 birds in the next few days before the expedition ended on June 3.

Though small in numbers, these last few catches were important, as they provided information about the average weights of birds just prior to takeoff. Turnstones that I had no trouble holding in one hand three weeks earlier were now bulging between my fingers, their bellies plumped up like department-store Santas. At the peak of migration, it was estimated that more than 75,000 red knots, as well as hundreds of thousands of sanderlings and ruddy turnstones, had visited Delaware Bay. During the month-long expedition, the team banded a total of 4061 birds. Of that number, 16 were retraps originally banded in South America, and 34 had been originally banded in Delaware Bay in previous years. One had been banded in Delaware 12 years earlier, indicating a high level of site fidelity.

* * *

Despite the extensive information gathered on our expedition, there are no immediate answers as to how greatly loss of habitat and crab harvesting in Delaware Bay has affected the shorebirds. Expeditions in the next several years will tell us more about how successful the birds have been in breeding and rearing their young. And a decade may pass before we can determine the status of the crab stocks, since female horseshoe crabs do not mature and breed until they are ten years old.

Several things are immediately apparent, however. From radio tracking and ground censuses, we know there is much movement around Delaware Bay, suggesting that birds use the entire bay as a food resource. We also know that during their stay many birds doubled their body weight in only a few weeks, a rate unprecedented anywhere else in the world, illustrating Delaware Bay's status as one of the most important staging areas in the Western Hemisphere Shorebird Flyway for knots, turnstones, and sanderlings.

Having banded and colour-flagged more than 8000 birds, the international research team now has a good sample size to monitor and observe over the next several years. Expeditions will continue to South America and Delaware Bay, and the first to the Canadian Arctic this past June gathered information about breeding distribution.

Some of the late arrivals increased their body fat suddenly and dramatically. One retrapped bird gained 37 grams—the equivalent of a 150-pound person gaining 27 pounds—in three days

Migratory shorebirds are truly an international resource. They have united communities throughout the Americas, through the WSHRN, and plans are underway to establish a National Estuarine Reserve in San Antonio Oeste, Argentina, with assistance from several U.S., British, and Canadian agencies, including the ROM's Centre for Biodiversity and Conservation Biology. This col-

ANCIENT SURVIVORS



Resembling creatures from a science fiction movie, horseshoe crabs are one of the oldest living species on Earth, virtually unchanged since their evolution 350 million years ago. Despite their name, these “crabs” are more closely related to spiders and scorpions, and have adapted extremely well to their environment from early in their existence, some 250 million years before dinosaurs appeared. Guided by lunar cycles and water temperature, horseshoe crabs come ashore each spring to spawn. In Delaware and New Jersey, a high tide in May or June can bring hundreds of thousands of them onto the beaches in a remarkable spectacle. Males arrive first, and as the larger females appear, males cluster around them, vying for the opportunity to fertilize the females’ eggs. The successful male clamps onto a female, who then drags him up the beach where she makes a depression in the sand, lays her eggs, then drags him over the top to fertilize them. Afterwards, they cover the eggs with sand and make their way back into the water. This cycle is repeated several times during the spawning season.

Spawning horseshoe crabs blanket a Delaware Bay beach in an annual spectacle of nature. Their tiny eggs provide a vital food source for migrating shorebirds.

laboration will promote research and education throughout the flyway and provide technical support and training to conservationists in South America.

Scientists and conservationists are vitally aware of the importance of sharing information among themselves and with policy makers, and of informing the public at home and abroad about the potential loss of the world’s natural heritage. Only by coordinating our efforts can we succeed in protecting our shorebirds—and ensure the continuation of this annual miracle of nature. ♣

COURTESY ALLAN BAKER, ROM

❖ BOOK REVIEWS ❖

Herodotus

By James Romm

(Yale University Press, Cloth: US\$30, Paper: US\$15)

ALLUSIONS TO HERODOTUS IN Michael Ondaatje's *The English Patient* conjure the historian as a weaver of tales, wandering in the ancient desert. Aristotle himself described him as *mythologos*, or "storyteller." At the same time, Herodotus is often regarded as the "father of history." Romm reconciles the mythmaker and chronicler to reveal a dynamic narrator who presented history powerfully through stories.

Nefertiti: Egypt's Sun Queen

By Joyce Tyldesley

(Viking, Cloth: \$32.99)

BEAUTIFUL, INTRIGUING, AND charismatic, Nefertiti may have been the most influential woman of the Bronze Age. An exquisite painted bust of her, discovered in 1912 and now in the Berlin Museum, has become an icon of the ancient world. Her husband was Akhenaten, her son-in-law Tutankhamun. The sequel to Tyldesley's *Hatchepsut* and *Daughters of Isis*, *Nefertiti* unveils the sun queen as woman.

Nightwatch: A Practical Guide to Viewing the Universe

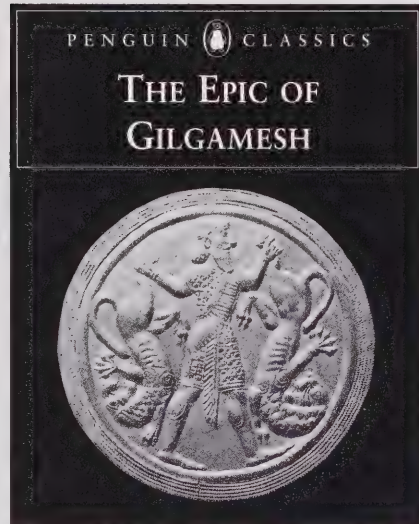
Third Edition: Revised and Expanded for Use Through 2010

By Terence Dickinson

(Firefly, Cloth: \$45, Paper: \$29.95)

STARGAZERS WILL WELCOME THIS handsome new edition of a Canadian classic. Based at his home/observatory in rural eastern Ontario, the author has, like the venerable Helen Hogg before him, "brought the stars to everyone." The lucid text, practical tips, and exceptional astrophotography make *Nightwatch* a must for starfield navigators.

PENGUIN AUDIOBOOKS



READ BY RICHARD PASCO

The Epic of Gilgamesh

Read by Richard Pasco

(Penguin Audiobooks, 2 cassettes, \$12.99)

THE WORK OF AN ANONYMOUS BABYLONIAN poet, *Gilgamesh* was recorded in Akkadian, more than four millennia ago. Its literary origins lie in the texts of five earlier poems in Sumerian. Like Britain's Arthur, Gilgamesh appears to have been an actual king to whose deeds were added those of earlier warriors.

In his quest for immortality the hero vanquishes the giant, Humbaba; is desired by Ishtar, the goddess of fertility; battles the Bull of Heaven; and encounters the Scorpion Man, as well as the perhaps less mythic Siduri the Barmaid. After crossing the waters, he meets Uta-Napishtim, the Babylonian Noah, who had been warned of the gods' intention to drown humankind. Thousands of clay tablets recovered from excavations in the ruins of ancient Mesopotamia form the basis of the epic.

Pasco's performance is dynamic and engaging. **Myths of Mesopotamia: Creation, the Flood, Gilgamesh, and Others**, by Stephanie Dalley (Oxford, Paper: \$11.50), is also worth exploring. Recommended children's books on the topic include the trilogy *Gilgamesh the King*, *The Revenge of Ishtar*, and *The Last Quest of Gilgamesh*, retold and illustrated by Ludmila Zeman (Tundra, Paper: each \$9.99).

The Butterflies of Canada

By Ross A. Layberry, Peter W. Hall, J. Donald Lafontaine (University of Toronto Press, Cloth: \$75, Paper: \$29.95)

MOSES HARRIS'S 1749 PLAN OF Halifax is decorated with the first known rendering of a Canadian butterfly. From the history of butterfly study in Canada, to butterfly identification, to creating your own butterfly garden, *The Butterflies of Canada* is the definitive guide. Illustrated with 32 pages of multiple-image colour plates.

Building the Georgian City

By James Ayres

(Yale University Press, Cloth: US\$65)

A WINDOW INTO BRITISH AND North American architectural heritage, *Building the Georgian City* surveys the style on a trade-by-trade basis—from laying the foundations to the finessing elements of plaster and decoration. Industrialization, Ayres argues, led to the separation of designer and maker, and to a shift in power from the empirical knowledge of the builder to the theoretical understanding of the architect. Lavishly illustrated.

Journey to the Source of the Nile

By Christopher Ondaatje

(HarperCollins, Cloth: \$39.95)

GRAECO-EGYPTIAN ASTRONOMER Ptolemy's ideas of the river's source, deep in the African interior, was the stuff of dreams for Victorian explorers who attempted to journey there. Following their routes, cultural traveller/adventurer Ondaatje has produced a penetrating and reflective documentary, suffused with insight.

GLEN ELLIS

Glen Ellis is head of Publications, Royal Ontario Museum



According to popular wisdom, God is in the details. In determining the authenticity of antique furniture, the truth also resides there.

A Fine Piece of Fakery

THE CHESTS PICTURED ABOVE, AL- though similar in style, are very different in origin. They have been in the ROM's collections since 1920, and at one time were on display together in the galleries. They were put into storage several years ago, and only recently came to my attention, when the oak chest-on-stand (left), being in better condition than the walnut piece, was chosen to return to public view. Accordingly, it was brought to the conservation lab for routine analysis and a report on its condition.

Once in the lab, it quickly became apparent why the oak chest was in so much better condition—

it was a fraud. That isn't a term I use lightly, but in this case I feel that the maker's intention was to deceive, rather than simply to copy an original.

Having observed many pieces of antique furniture over the years, I have become sceptical about authenticity. Without the opportunity for close inspection, which might uncover the errors of the maker, it can be very difficult to spot frauds. I usually base my findings on construction, and use style peculiarities to support my theories. As a general rule, on older pieces I look for previous repairs and other signs of general wear, which help to indicate au-

thenticity. I can accept one or two things about a piece that are wrong for the period. For example, the hardware on the oak chest is not original. But for various reasons, hardware is often replaced. And although the chest was made during the age of walnut, oak may still have been used in a transitional piece. But the number of things wrong with the chest, both stylistically and structurally, which taken individually might not indicate fraud, together pointed in that direction.

It's hard to imagine a piece of furniture 300 years old having no cracking, or even missing veneer, but that is what I saw. Looking at the

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CONSERVATION NOTES CONTINUED

back of the chest, I noticed that it had been stained. Whenever staining appears on the back, underside, or interior of a piece, it usually signals an attempt to hide something. In this case, the stain concealed the different woods that formed the back. I also observed that the top half of the chest was resting entirely on its moulding, which is not meant to provide structural support, and that a different construction was evident on the side exterior of the top and bottom halves of the piece. This suggests a marriage of two parts that did not start out together.

This is a common problem in double-cased objects such as bookcases. In this piece, I suspect that the top was originally the bottom of a chest-on-chest because of the number of drawers. Normally, the tops of chests-on-chests have four drawers and bottoms have three, the same number as our piece. The most incriminating evidence, though, revealed itself in the chest's interior. The drawers were made of recycled pine, not oak, and were also stained. There were no signs of a slotted side-rail, and the drawers' dovetails were not uniform in size—all highly suspect. Combined with the veneered fronts of the drawers, and other smaller forgery errors, these features made it clear that the chest was not original but had been fashioned from pieces of old furniture.

The walnut chest-on-stand, a well-proportioned English William and Mary example with a Dutch-influenced design, was the item ultimately chosen for display. It can be seen in the Samuel European Galleries, exhibited in a vignette of its 17th-century context. The oak chest-on-stand remains in the ROM's study collections for teaching purposes because it is an excellent example of fakery, and could be considered a prime candidate for a display of fakes and forgeries.

RAY TOKAREK

Ray Tokarek is a conservator of furniture and wooden objects

ROM

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ROYAL ONTARIO MUSEUM
100 Queen's Park, Toronto ON M5S 2C6

ROM ANSWERS

Dear ROM Answers,

I own three pieces, pictured in the enclosed photographs, that I would like to have identified. Their history is unknown, but they were all inherited from an aunt who died 10 years ago at the age of 100. The first is a cylindrical, dull brass object with Gothic tracery in relief. It looks somewhat like a candlestick. As one of my photographs indicates, it has a central brass cylinder that pulls up from the top and can be removed. It is 24 cm (9½ inches) tall, and the base has a diameter of 9 cm (3½ inches). On the bottom is a relief resembling a seal with a crown, a unicorn on the right, a lion rampant on the left, and a circle in the centre. This relief is not really legible, although I can make out the letters "THE . . ." (on the left), "... IRO" (on the right), and "... ET MON. . ." in the centre.

The second item is what I call a "dish holder." It is a silver-plated stand, resting on four feet, with large scrolled handles on either end and brackets on the side that are shown holding a spoon, which does not belong with the piece. It has a removable bell-shaped cover with an ornate finial and stands 24 cm (9½ inches) tall with 25.5 cm (10 inches) between the furthest tips of the handles. Stamped on the bottom is the number 1349, a lion rampant within a circle surrounded by the words "Meriden Silver Plate" and the word "Quadruple."

The third item is a double candelabra made of brass. A parrot with red glass eyes is perched between the candle cups. The parrot's head is hinged at the back and opens to re-



veal a cylindrical cavity 2.5 cm (1 inch) deep and approximately 2 cm (¾ inches) in diameter. The height to the top of the candle holders is 28 cm (11 inches). The diameter of the base is about 15 cm (6 inches). I do hope the details are sufficiently clear to enable you to provide an identification. Thank you for this service.

M. E. H.
THORNHILL, ONTARIO

Dear Reader,

You own three interesting pieces of 19th-century metalwork associated with different aspects of daily life. The Gothic Revival-style brass object was one of a pair of mantelpiece ornaments. There is a pair in the ROM's collection marked "Day's Patent Mantel Ornaments" with clear versions of the marks you describe. The device seen on the bottom is a version of the British Royal Coat of Arms, which in the past was a valued marketing tool. Representations of it were applied to manufactured goods to indicate that they were of superior quality or were the latest inventions worthy of purchase by well-informed consumers. The "mantel ornaments," in fact, also had a practical use. While the Gothic Revival ornamentation of the pieces decorated the mantelpiece and helped to create a suitable ambience for reading Gothic novels or the writings of Sir Walter Scott, the interiors held fans. These were folding fans with two fairly substantial sticks hinged together at one end. When you folded them outwards, the result was a finely pleated circular fan of silk. These fans were very

If you own furniture, silver, glass, metalwork, ceramics, textiles, or small decorative objects that may have an interesting past and have aroused your curiosity, this column is for you. Send a clear black-and-white photograph (or 35-mm colour slide) of the object against a simple background, providing dimensions, a description, any markings, or any known details of its history to: ROM Answers, c/o Rotunda magazine, Royal Ontario Museum, 100 Queen's Park, Toronto, Ontario M5S 2C6. Be

sure to enclose a stamped, self-addressed envelope large enough to include any photos that must be returned to you.

Neither Rotunda nor the author nor any other person who may be consulted assumes any legal responsibility for these opinions or their ramifications. No financial appraisals will be offered. If your query is selected to be published in the column, only your initials and city will appear, in order to protect your privacy. Letters will be acknowledged as staff time permits.

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ROM ANSWERS CONTINUED

useful to ladies seated near a hot fire for protecting their faces from becoming flushed or from having their cosmetics melt and run. During the 1800s, pairs of fans were commonly kept on top of mantelpieces in English-speaking homes, both as ornaments and for practical use. This folding variety, both with and without ornamental case, was a commonly used type. Most of the brass stands have long ago lost their fans as silk is quite perishable, and the fans tended to be discarded when they were no longer useful.

Your covered dish is a form of butter dish made in great quantity about 1875–1900. The butter knife would have sat in the brackets at the side. Inside was a removable flat grill pierced with round holes. Chopped ice was placed in the depression below the grill. The butter might sit in a shallow dish on top. The Meriden Company of Meriden, Connecticut, was a major producer of silverplate in the late 1800s. They even expanded into Canada, opening a factory in Hamilton, Ontario. The figure “1349” is the model or production number. The engraved design of a fan and bamboo is in the Japonesque style, popular around 1880, which suggests a date for your dish. The spoon is a type that was commonly used for serving jelly. It is also likely to be electroplated silver. You could try looking around at antique shows for a butter knife to match your dish. Some years ago, I found one that I gave as a gift to a friend who owned a butter dish similar to yours.

The final piece is probably the most interesting and luxurious of your possessions. Parrots, cockatiels, and other exotic birds were valued pets in the late 1800s. They sometimes provided inspiration for the decorative arts. For example, some of the finest porcelain made at Coalport in the period is exquisitely hand-painted with exotic birds. The form of your piece is based on a bird as it would have been kept on a perch. It appears to be a jewellery stand for a dresser. Earrings, neck-

laces, and bracelets might be hung from the four perches; brooches and other jewels could be placed on the base; and the inside of the bird would have held a fitted, velvet-covered liner to accommodate one or more fine rings. Although it is not always possible to judge from photographs, the brass seems to be exceptionally well finished. The cockatiel (likely an imported Australian variety) seems to be well cast and I suspect is fitted with a well-made hinge. Carefully made hinges are an indicator of quality. The model is novel and entertaining but well-designed with great economy and a sense of style. Most surviving Victorian dresser objects are much more tawdry.

I would guess that this piece is English or perhaps French. Without a mark or an illustration of a similar piece, it is difficult to identify. I would date it to about 1870–1890, a time when English manufacturers were making glass perfume bottles and decanters in novelty animal and bird forms with cast bronze, silver, or silver-plated heads and feet of similar realistic quality. These also had glass eyes. It is possible that the cockatiel could also have been made as an inkwell: the cavity could have held one of the small ceramic or glass ink pots of the period. Thank you for sharing your family heirlooms with our readers.

PETER KAEELGREN,
DEPARTMENT OF WESTERN ART AND
CULTURE, ROYAL ONTARIO MUSEUM

Dear ROM Answers,

We are looking for additional information and value on a sideboard. This piece was left to us by a relative who said it was brought to Quebec from France many years ago, and that it is French, 16th or 17th century.

The xerographic copy came from the book *The Joy of Collecting Antiques and Collectibles in Ireland* by Helen Coburn (Wolfhound Press, Dublin, 1992), and the design seems similar. We do not have the book, only the copied page. The dimensions are as follows: Base, height 99 cm (39 inches), width 130

cm (51.25 inches), depth 60 cm (23.5 inches); Hutch, height 114 cm (44.8 inches), width 120 cm (47.25 inches), depth 20 cm (7.75 inches); Cap, width 137 cm (54 inches).

Any additional information will be appreciated.

YOURS TRULY,
J. M., St. CATHARINES, ONTARIO



Dear Reader,

I agree that your dresser corresponds to French forms dating to as early as the 1700s and it may well be made from old wood; however, several features suggest that it is likely a “decorator piece” made at a much later date. First, this form is very popular with collectors. What a great way to display a collection of plates and create a cozy interior! Second, the original examples of this form were hard-working pieces of kitchen furniture. Every last dainty spindle on the top section of your dresser is in perfect condition. Although the carving is coarse and country style, there are limited signs of wear. The boards backing the top half of the dresser, as shown in the colour photo, appear to have been through a planing machine. They are so smooth that they have to be late 1800s at the earliest.

Because they were utilitarian pieces, the original dressers of this type had very limited decoration. Any carving and decorating had to be done by hand, which cost money that could be used to better effect in the more formal public rooms of the house. Towards 1900, when such dressers were first used as decorator pieces, craftsmen had begun to use machines and were able to execute the carving and even the elaborately turned spindles much less expensively. The carved motifs on the drawers of your dresser are not of French design. They may have been inspired by the designs incised and shallowly carved on the fronts of British oak chests during the 1600s; however, they are very like the corner motifs used for the frameworks of windows in the late 1800s. You can even find these motifs in Canadian houses from the same period, c. 1870–1890. Again, these could be easily produced by a machine.

I suspect that your dresser may have been produced in France towards 1900 for the benefit of a wealthy traveller. Popular tourist destinations, such as Brittany, had workshops that produced oak and other wood furniture in an antique or country style, sometimes using wood from old buildings or even parts of plain or dilapidated old furniture. These pieces were sold to wealthy travellers and dealers. On occasion, they ended up in some of the best Canadian homes, either honestly known as old-style pieces or erroneously acquired as antique.

To determine how much of your piece may actually be old, you will need to have it examined by an experienced professional restorer of antique furniture. A reputable antique dealer, especially one who is a member of the Canadian Antique Dealers Association, could help you find such a professional. They could also help you with an appraisal. Since the Royal Ontario Museum is a non-profit, educational, public institution, Museum policy prohibits staff from financially appraising artifacts. Thank you for your letter.

P. K.


❖ LOOK AGAIN ❖



Pipe Dream?

BELIEVED TO HAVE BEEN USED IN CEREMONIES BY LATE IROQUOIAN PEOPLES, this unique snake-pipe, dating to about 1520 to 1570, hints at an extraordinary cultural history. The two snakes, wrapped around the neck and entering the eye cavities of the face, feature clearly sculpted rattles, indicating that both are rattlesnakes. The face is thought to be decomposing, nearly skeletal, as shown by the lines scored into the mouth representing teeth. But the pipe's exact meaning remains mysterious. ❖

PHOTOGRAPH BY BRIAN BOYLE, ROM



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